REMARKS

These remarks follow the order of the paragraphs of the office action. Relevant portions of the office action are shown indented and italicized.

DETAILED ACTION

Election l Restrictions

> *1.   Applicant's election of Group I (claims 1-15, 17,45-50,60-67,74 and 81-83) in the reply filed on 24 June 2004 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (M.P.E.P. § 818.03((a)).*

> *However, upon further review, it does not appear that examining all the claims together will present an undue burden upon the Office, so that the previous restriction requirement is hereby withdrawn. All pending claims (i.e., claims 1-90) remain under consideration and will be treated on the merits herein.*

In response applicants state that since the restriction stands withdrawn, the withdrawn notation is removed from all claims in the new claim listing. Claims 1-90 remain in the application.

Drawings

> *2.   The drawings filed on 23 January 2002 are acceptable subject to correction of the informalities indicated on the attached "Notice of Draftsperson's Patent Drawing Review," PTO 948. In order to avoid abandonment of this application, correction is required in reply to the Office action. The correction will not be held in abeyance.*

In response applicants state that the drawing was corrected and new drawings are being submitted herewith.

Claim Rejections - 35 U.S.C § 112

> *3.   The following is a quotation of the second paragraph of 35 USC § 112: The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.*

> *4.   Claims 1-4, 15, 17, 28-29, 34, 45, 50, 60, 67-68, 70, 74, 83 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly*

Serial No.: 09/931,210

claim the subject matter which applicant regards as the invention.

In claim 1, the recitation of "said pixel" at line 5 is ambiguous because it is unclear which of the previously recited "plurality of pixels" is referred to by this recitation. It is believed that amending this recitation to read "said pixels" would resolve this issue. In addition, the recitation of "said brightness data" at line 12 is indefinite because none of the preceding claim language recites or defines any such brightness data, so that it is unclear what data is referred to and further defined by this recitation.

Claim 45 includes identical recitations at lines 9 and 16, which are similarly indefinite.

Claims 2-4, 17 and 60 are variously dependent from claim 1 and are therefore also indefinite.

In response applicants state that claims 1 and 45 are amended to overcome the 35 USC § 112 rejections. This makes these claims and all claims that depend upon them allowable.

In claim 15, the recitation of "said brightness multiplying factor" at line 44 (in step (I)) is indefinite because the preceding claim language does not recite or define any such brightness multiplying factor, so that it is unclear what feature is referred to and further limited by this recitation. It appears that this recitation was meant to refer to the "brightness adding and/or subtracting factor" recited at lines 8-9 of claim 15, and it is suggested that amending the recitation at line 44 to correspond to the recitation at lines 8-9 would resolve this issue. Claim 50 includes an identical recitation at line 48, which is similarly indefinite. In addition, the recitation of "the step of aligning" at lines 1-2 of dependent claim 67 is ambiguous, because it is unclear which recitation of the parent claim this language is meant to refer to and further define. Specifically, claim 15 recites "aligning" at line 11 (step (b)) and at line 23 (step (e)), so that the further limitation of claim 67 is cannot be clearly understood. Claim 83 is dependent from claim and is therefore also indefinite.

In response applicants state that claim 15 is amended to overcome the 35 USC § 112 rejection. This makes claim 15 and all claims that depend upon it allowable.

The recitation of "said coincidence variable" in lines 1-2 of claim 28 lacks proper antecedent basis in the preceding claim language, because none of the preceding claim language recites or defines any coincidence variable. Therefore, it is unclear what variable is referred to and further limited by this recitation. Claim 20, from which claim 28 depends, does recite a "coincidence value" at line 6, and it appears that amending the recitation in claim 28 to correspond to this recitation of claim 20 would resolve this issue. Claim 29 is dependent from claim 28 and is therefore also indefinite.

In response applicants state that claim 28 is amended to overcome the 35 USC § 112 rejection. This makes claim 28 and all claims that depend upon it allowable.

Serial No.: 09/931,210

The recitation of "said attribute" at lines 1-2 of claim 34 also lacks proper antecedent basis in the preceding claim language. Specifically, claim 30, from which claim 34 depends, does not recite or clearly define any "attribute" so that is it unclear what attribute is referred to by this recitation. Claim 33 includes a recitation defining an attribute, so that it appears that amending claim 34 to be dependent from claim 33 rather than claim 30 would resolve this issue.

In response applicants state that claim 34 is amended to depend on claim 33. This overcomes the 35 USC § 112 rejection. This makes claim 34 and all claims that depend upon it allowable.

In addition, in claim 68, the recitation of "said marked image" at line 2 lacks clear antecedent support in the preceding claim language. Specifically, claim 16, from which claim 68 depends, fails to recite or clearly define a marked image, so it is unclear what image is referred to by this additional language in claim 68. Claims 70 and 74 include identical recitations that similarly fail to find proper antecedent support in the language of claims 30 and 61, from which they variously depend.

In response applicants state that *claims 68-74* are amended to overcome the 35 USC § 112 rejections. This makes these claims and all claims that depend upon them allowable.

Finally, the recitation of "the means of providing" at lines 1-2 of claim 74 is indefinite because none of the preceding claim language recites or describe any "means of providing," so that it is unclear what means is referred to and further described by this recitation.

In response applicants state that claim 74 is amended to overcome the 35 USC § 112 rejection. This makes claim 74 and all claims that depend upon it allowable.

Claim Rejections - 35 U.S.C § 102

5.   The following is a quotation of the appropriate paragraphs of 35 U.S. C. § 102 that form the basis for the rejections under this section made in this Office action: A person shall be entitled to a patent unless

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States. (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21 (2) of such treaty in the English language.

6.   Claims 5-7, 13, 46, 48, 61-62 and 81 are rejected under 35 U.S.C. § 102(e) as being anticipated by Braudaway et al. '759 (US 5,530,759 A) The applied reference has a common inventor and assignee. with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. § 102(e). This rejection under 35 U.S.C. § 102(e) might be overcome either by a showing under 37 C.F.R. § 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 C.F.R. § 1.131.

With respect to claim 5, Braudaway et at. '759 teaches a method for imparting a watermark onto a digitized image (column 1, lines 7-9) comprising the steps of providing said digitized image comprising a plurality of pixels (column 4, lines 10-12), wherein each of said pixels includes brightness data that represents a brightness of at least one color (column 4, lines 60-66; each pixel represents the brightness of at least one and up to three colors); and altering said brightness data associated with a plurality of said pixels (column. 6, lines 38-40) maintaining the hue and saturation of said pixel (column 1, lines 66-67; the watermarking preserves the chromaticities of the original image; column 3, lines 65-66; the color components can represent intensity/saturation/hue, so that preserving the chromaticities inherently requires maintaining the hue and saturation components).

In response applicants state that

Furthermore, Braudaway et al. '759 teaches a computer program product comprising a computer useable medium having computer readable program code means embodied therein (114 in Figure 1) for causing a watermark to be imparted into an image, the computer readable program code means in said computer program product comprising computer program code means (column 4, lines 21-22 and 30-37) for causing a computer to effect the steps of providing said digitized image comprising a plurality of pixels (column 4, lines 10-12), wherein each of said pixels includes brightness data that represents a brightness of at least one color (column 4, lines 60-66; each pixel represents the brightness of at least one and up to three colors); and altering said brightness data associated with a plurality of said pixels (column 6, lines 38-40) maintaining the hue and saturation of said pixel (column 1, lines 66-67; the watermarking .preserves the chromaticities of the original image; column 3, lines 65-66; the color components can represent intensity/saturation/hue, so that preserving the chromaticities inherently requires maintaining the hue and saturation components), as further stipulated by claim 46.

In response applicants state that

In addition, Braudaway et al. '759 also teaches that the image has a plurality of rows and columns of pixels (column 4, lines 10-11; the image is generated by scanning photographs or paintings, and therefore is inherently a two-dimensional array having plural rows and columns) having at least one brightness (column 4, lines 60-66), and that the altering includes adding to or subtracting from the brightness value of a pixel (column 6, lines

Serial No.: 09/931,210

1   *58-60) a different small random number (column 5, lines 41-47) corresponding to that pixel,*
2   *as further required by claim 6; and that the amount added to or subtracted from the image is*
3   *proportional to the original pixel brightness (i.e., a scaling factor; column 6, lines 57-58), as*
4   *defined in claim 7. Finally, Braudaway et al. '759 further teaches an apparatus for imparting a*
5   *watermark on to a digitized image, comprising mechanisms for performing the methods of*
6   *claims 5 and 6 (shown generally in Figure 1, for example), as variously stipulated by claims 61*
7   *and 62.*

8   In response applicants state that

9   *With respect to claim 13, Braudaway et al. '759 teaches a method for generating a*
10   *watermarked image (column 1, lines 7-9), the method comprising imparting a watermark*
11   *onto a digitized image having a plurality of original pixels, each of said pixels having at*
12   *least one original pixel brightness value (column 4, lines 60-66); providing said digitized*
13   *watermarking plane comprising a plurality of watermarking elements (column 4, lines*
14   *52-55), each element having a watermark brightness multiplying factor (column 5, lines*
15   *6-15) and having a one-to-one positional correspondence with said original pixels (column*
16   *5, lines 8-10 and 12-14; the watermark "pixels" correspond to pixels in the original image);*
17   *and producing a watermarked image by multiplying said original brightness of each of said*
18   *original pixels by said brightness multiplying factor of a corresponding one of said*
19   *watermark elements (column 6, line 7).*

20   In response applicants state that

1   *Furthermore, Braudaway et al. '759 teaches a computer program product comprising a*
2   *computer useable medium having computer readable program code means embodied therein*
3   *(114 in Figure 1) for causing generation of a watermarked image, the computer readable*
4   *program code means in said computer program product comprising computer program code*
5   *means (column 4, lines 21-22 and 30-37) for causing a computer to effect the steps of*
6   *imparting a watermark onto a digitized image having a plurality of original pixels, each of*
7   *said pixels having at least one original pixel brightness value (column 4, lines 60-66);*
8   *providing said digitized watermarking plane comprising a plurality of watermarking*
9   *elements (column 4, lines 52-55), each element having a watermark brightness multiplying*
10   *factor (column 5, lines 6-15) and having a one-to-one positional correspondence with said*
11   *original pixels (column 5, lines 8-10 and 12-14; the watermark "pixels" correspond to pixels in*
12   *the original image); and producing a watermarked image by multiplying said original*
13   *brightness of each of said original pixels by said brightness multiplying factor of a*
14   *corresponding one of said watermark elements (column 6, line 7). Finally, Braudaway et al.*
15   *'759 further teaches an apparatus for generating a watermarked image, comprising mechanisms*
16   *for performing the method of claim 13 (shown generally in Figure 1, for example), as further*
17   *stipulated by claim 81.*

Serial No.: 09/931,210

In response applicants state that

> 7.   Claims 11, 47 and 63 are rejected under 35 U.S.C. § 102(b) as being anticipated by Rhoads (US 5,636,292 A).
>
> Rhoads teaches a method for imparting a watermark onto a digitized image comprising the steps of providing said digitized image comprised of a plurality of pixels (column 8, lines 38- 40), wherein each of said pixels includes brightness data that represents a brightness of at least one color (column 8, lines 40-43), with said image having I rows and J columns, and a pixel in row i and column j having a brightness Y(i, j) (column 8, lines 44-49); and for a plurality I and at least one j adding to or subtracting from the brightness Y(i, j) (column 13, lines 40-44) a random value e(i,j) (column 9, lines 34-36; the composite signal to be embedded is generated from a plurality of random patterns; column 10, lines 6-10), wherein $1 \leq i \leq I$ and $1 \leq j \leq J$ are the row and column indices of a pixel location in the image (column 10, lines 22-25), as stipulated by claim 11.
>
> With respect to claim 47, Rhoads teaches a computer program product comprising a computer useable medium having computer readable program code means embodied therein (column 11, line 7; Rhoads discloses the use of a computer to implement the invention) for causing a watermark to be imparted into an image, the computer readable code means in said computer readable product comprising computer readable program code means (i. e., image manipulation software; column 11, line 8) for causing a computer to effect the steps of providing said digitized image comprised of a plurality of pixels (column 8, lines 38-40), wherein each of said pixels includes brightness data that represents a brightness of at least one color (column 8, lines 40-43), with said image having I rows and J columns, and a pixel in row i and column j having a brightness Y(i,j) (column 8, lines 44-49); and for a plurality I and at least one j adding to or subtracting from the brightness Y(i,j) (column 13, lines 40-44) a random value e(i,j) (column 9, lines 34-36; the composite signal to be embedded is generated from a plurality of random patterns; column 10, lines 6-10), wherein $1 \leq i \leq I$ and $1 \leq j \leq J$ are the row and column indices of a pixel location in the image (column 10, lines 22-25). Finally, Rhoads also teaches an apparatus for imparting a watermark onto a digitized image (column 11, line 7; Rhoads discloses the use of a computer to implement the invention) comprising mechanisms (i.e., image manipulation software; column 11, line 8) for implementing the method of claim 11, as further required by claim 63.
>
> Because the priority applications do not include any disclosure describing adding to or subtracting from the brightness values a random value, as stipulated by these claims, the priority applications do not meet the requirements of 35 U.S.C. § 112, first paragraph, in that they fail to show that applicant was in possession of the invention now claimed at the time the parent priority applications were filed. Therefore, these claims, which each variously requires adding to or subtracting from the brightness values a random value" are not entitled to the benefit of the filing date of the priority applications, and the effective filing date for these claims is considered to be 16 August 2001.

In response applicants state that claims 11, 47 and 63 are canceled.

Serial No.: 09/931,210

8.   Claims 64-66 are rejected under 35 U.S.C. § 102(e) as being anticipated by Wang
'086 (US 6,263,086 B 1). Wang '086 teaches a method for detecting a watermark in a marked
image (Abstract, lines 1-3), said method comprising providing said marked image having
said watermark (S1100 in Figure 7); processing the marked image and producing a
screened image (2412 in Figure 5; which is part of the global autocorrelation S 1200);
altering the screened marked image employing a blurring filter in producing a filtered
image (i. e., determining the mean (average) values; 2434 in Figure 6; which is a part of
piecewise autocorrelation S 1500); and employing a watermark detection method upon said
filtered image to detect said watermark (S 1700 in Figure 7), as variously required by claims
64 and 65. Furthermore, Wang '086 also teaches producing a derivative image y screening,
printing and scanning the marked image (column 3, lines 30-46), as further required by claim
66.

Because the priority applications do not include any disclosure describing the use of the
blurring filter stipulated by these claims, the priority applications do not meet the
requirements of 35 U.S.C. § 112, first paragraph, in that they fail to show that applicant was
in possession of the invention now claimed at the time the parent priority applications were
filed. Therefore, claims 64-66, which each variously requires the blurring filter, are not
entitled to the benefit of the filing date of the priority applications, and the effective filing
date for these claims is considered to be 16 August 2001.

In response applicants state that the watermark embedding and detection method taught by Wang

'086 is fundamentally different from that of claims 64-66 of the present invention. Whereas Wang

'086 uses "local autocorrelation to estimate the exact amount of separation between two adjacent

correlated halftone patterns that <u>when properly aligned produce a **visible** watermark</u>," the present

invention uses a blurring filter that essentially removes and disables halftone patterns, thereby

blending the halftone patterns and converting a halftone image into a continuous tone image that is

devoid of high-frequency artifacts caused by the halftone process. Since the Wang '086 method

relies on these high-frequency artifacts, if a blurring filter were first applied to a halftone image as in

the present invention, the method taught by Wang '086 would be rendered ineffective. In the present

invention, any embedded watermark remains invisible and is detectable only through computer

analysis searching for embedded low-frequency random patterns. Thus claims 64-66 of the present

invention are allowable over the cited art.

Double Patenting

9.   The nonstatutory double patenting rejection is based on a judicially created doctrine
grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or

improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See In re Goodman, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); In re Longi, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); In re Van Omum, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); In re Vogel, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, In re Thorington, 418 F.2d 528, 163 USPQ 644 (CCPA 1969). A timely filed terminal disclaimer in compliance with 37 C.F.R. § 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground

provided the conflicting application or patent is shown to be commonly owned with this application. See 37 C.F.R. § 1. 130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 C.F.R. § 3.73(b).

10.   Claims 5 and 61 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 2 of U.S. Patent No. 5,530,759 to Braudaway et al. Although the conflicting claims are not identical, they are not patentably distinct from each other because the invention defined by the instant claims would have been obvious to one of ordinary skill in the art in view of the claims of the '759 patent. Specifically, claim 2 of the '759 patent imparts a watermark onto a digitized image (see the preamble of claim 1, from which claim 2 depends) by providing a digitized image (line 3 of claim 1 in the '759 patent) comprised of a plurality of pixels (while not explicitly defined in the claims of the '759 patent, a digital image implies a plurality of pixels defining the content of the image), wherein each of said pixels includes brightness data that represents a brightness of at least one color (line 6 of claim 1 and line 5 of claim 2 in the '759 patent; the pixels of the image represent brightness and color); and altering said brightness data associated with a plurality of said pixels ("modifying the corresponding pixel of the original image by changing the brightness"; see the '759 patent, claim 2, lines 4-5) maintaining the hue and saturation of said pixel ('759 patent, lines 5-6, "without changing the chromaticities"; one of ordinary skill in the art would recognize that hue and saturation represent the chromaticity of the image, so that not changing the chromaticity requires maintaining hue and saturation). While claim 2 of the '759 patent includes additional features or limitations not stipulated by claim 5 of the instant application, the use of the transitional term "comprising" in the instant claim fails to preclude the presence of the additional features, so that the instant claim is broadly encompassed by claim 2 of the '759 patent, and the two claims are not patentably distinct. In addition, an apparatus with mechanisms for implementing the method of claim 2 in the '759 patent would have been readily apparent to one of ordinary skill in the art, so that the invention defined by claim 61 in the instant application would have been obvious to one of ordinary skill in view of claim 2 in the '759 patent.

In response applicants state that whereas claims 5 and 61 of the present invention is for particular levels of invisible watermarks, the U.S. Patent No. 5,530,759 to Braudaway et al. is for a visible watermark. This distinction is made clear in page 2 of the specification of the present invention, to wit

Serial No.: 09/931,210

1   (underlining added for emphasis):

2   "Invisible marks are herein classified relative to the appearance of that mark to a human being with

3   normal visual acuity. A mark on an image is classified as <u>having an invisibility classification level of</u>

4   <u>*undetectably invisible* if, when the image without the marking is displayed together with an image</u>

5   <u>copy with the marking, the human being is equally likely to select either of these copies.</u> An

6   undetectably invisible mark is below or at the human being's just noticeable difference. A mark on

7   an image is classified as having an invisibility classification level of *subliminally invisible* if the

8   mark is not distracting to the human being, although it is above the human being's just noticeable

9   difference. An image marking is classified as being *marginally invisible* if it does not cause the

10 marked image to lose its usefulness or value because of the mark. An image marking is classified as

11 being *poorly invisible* if the marking causes a reduction in the image's usefulness and/or value."

12 Thus claims 5 and 61 are allowable as they are different novelties than in U.S. Patent No. 5,530,759

13 and do not represent double patenting.

14   *11.   Claims 1, 13-14, 45, 48-49, 60 and 81-82 are rejected under the judicially created*
15   *doctrine of obviousness-type double patenting as being unpatentable over claims 18 and 21*
16   *of US Patent No. 5,825,892 to Braudaway et al. Although the conflicting claims are not*
17   *identical, they are not patentably distinct from each other because the invention defined by*
18   *the claims of the '892 patent (as set forth in the Reexamination Certificate) broadly*
19   *encompass or suggest each of the limitations of the instant claims. Specifically, with respect*
20   *to claims 1 and 13 of the instant application, claim 18 of the '892 patent defines a digitized image*
21   *having a plurality of pixels representing brightness values (preamble of claim 13 in the '892 patent,*
22   *from which claim 18 depends), the pixels having at least one color component (i.e., red, green, or*
23   *blue; claim 18 of the '892 patent), a digitized watermark plane with a plurality of watermark*
24   *elements having a one-to-one correspondence with the pixels of the digitized image (first*
25   *element of claim 13 in the '892 patent) and multiplying the brightness data of each pixel by a*
26   *corresponding multiplying factor from the watermarking plane (second element in claim 13*
27   *of the '892 patent), said watermark having an invisibility classification (last line in claim 13*
28   *of the '892 patent), so that claims 1 and 13 of the instant application are not patentably*
29   *distinct from claim 18 of the '892 patent. Similarly, claim 21 of the '892 patent defines*
30   *substantially similar limitations to claim 14 of the instant application, except that claim 21*
31   *of the '892 patent stipulates that the watermarking plane include a plurality of elements each*
32   *having a brightness multiplying value, while claim 14 of the instant application requires that*
33   *these elements be brightness adding or subtracting values.*

34   *However, it is a well established mathematical principle that an adjustment of a value by a*
35   *multiplying factor can also be accomplished by adding or subtracting an appropriate*
36   *percentage value that corresponds to the multiplying factor. Therefore, it would have been*

> *readily obvious to one of ordinary skill in the art that the adding or subtracting factors of the instant claims could be substituted for the multiplying factor of the patented claims. Therefore the invention defined by claim 14 in the instant application would have been obvious to one of ordinary skill in the art. Furthermore, the implementation of the invention defined in the claims of the' 892 patent using apparatus and/or computer program code would have been readily apparent to one of ordinary skill in the art, so that the invention variously defined in claims 45, 48-49, 60 and 81-82 of the instant application is also not patentably distinct from that set forth in claims 18 and 21 of the '892 patent.*

In response applicants are not certain of the obviousness statements presented above. However, if the Examiner maintains the obviousness, a terminal disclaimer will be provided disclaiming claims 1, 13-14, 45, 48-49, 60 and 81-82 such that they are active only for the life of U.S. Patent No. 5,825,892 to Braudaway et al.

> *12.   Claims 15, 50 and 83 are rejected under the judicially created doctrine of obviousness type double patenting as being unpatentable over claims 1 and 17 of U.S. Patent No. 6,577,744 to Braudaway et al. Although the conflicting claims are not identical, they are not patentably distinct from each other because the invention defined by the claims of the instant application would have been obvious to one of ordinary skill in the art in view of the invention defined by the claims in the '744 patent. Specifically, each of the limitations of claims 15 and 50 of the instant application is substantially identically set forth in claims 1 and 17 of the '744 patent, except that the patent stipulates that the watermarking plane include a plurality of elements each having a brightness multiplying value, while the claims of the instant application requires that these elements be brightness adding and/or subtracting values. However, it is a well established mathematical principle that an adjustment of a value by a multiplying factor can also be accomplished by adding or subtracting an appropriate percentage value that corresponds to the multiplying factor. Therefore, it would have been readily obvious to one of ordinary skill in the art that the adding or subtracting factors of the instant claims could be substituted for the multiplying factor of the patented claims. Therefore the invention defined by claims 15 and 50 in the instant application would have been obvious to one of ordinary skill in the art in view of claims 1 and 17 of the '744 patent. Furthermore, the implementation of the invention deemed in the claims of the '744 patent using an apparatus would have been readily apparent to one of ordinary skill in the art, so' that the invention variously defined in claim 83 of the instant application is also not patentably distinct from that set forth in claims 1 and 17 of the '744 patent.*

In response applicants are not certain of the obviousness statements presented above. However, if the Examiner maintains the obviousness, a terminal disclaimer will be provided disclaiming claims 15, 50 and 83 such that they are active only for the life of U.S. Patent No. 6,577,744 to Braudaway et al.

Serial No.: 09/931,210

Allowable Subject Matter

> *13.   Claims 16, 18-27,30-33,35-44,51-59, 69, 71-73, 75-80 and 84-90 are allowed.*

In response applicants state their appreciation for the allowed claims.

> *14.   Claims 8-10 and 12 are objected to as being dependent upon a rejected base claim,*
> *but would be allowable if rewritten in independent form including all of the limitations of*
> *the base claim and any intervening claims.*

In response applicants state that all the rejected base claims were amended to overcome their

respective rejections. This overcomes the objections to Claims 8-10 and 12 which are allowable.

> *15.   Claims 28-29, 34, 68 and 70 would be allowable if rewritten or amended to overcome*
> *the rejection(s) under 35 U.S.C. § 112, 2nd paragraph, set forth in this Office action.*

In response applicants state that claims 28-29, 34, 68 and 70 as amended overcome their respective

rejections and are therefore allowable. A listing of the claims is provided as required in the new

USPTO amendment practice per 37 CFR 1.121.

It is anticipated that this amendment brings the application to allowance of all claims not canceled.

Favorable action is respectfully solicited. In the unlikely event that any claim remains rejected,

please contact the undersigned by phone in order to discuss the application.

Please charge any fee necessary to enter this paper to deposit account 50-0510.

Respectfully submitted,

By: _Louis Herzberg_

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Serial No.: 09/931,210